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Rock Cut State Park Deer Removal Study

Illinois Natural History Survey

15 May 1993

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Background

The Illinois Natural History Survey (INHS) was contracted by the Illinois Department of Conservation (IDOC) to experimentally remove deer from Rock Cut State Park near Loves Park, Il., in January 1993. The objectives of the study were to: (1) apply field collection methods that would potentially improve the efficiency of such deer removal efforts; (2) test a subsample of deer for a recently found bacterium implicated in human ehrlichiosis; and (3) conduct post mortem examinations of deer to determine age and sex ratios, fecundity, and other measures of physiological condition.

Methods

Deer were taken using a mobile vehicle traveling among 13 bait sites. The 3-person crew included a driver (Dr. Jim Witham, IDOC, who also spotlighted), a spotlighter (Mr. Jim Sergent, INHS), and a shooter in the rear seat (Mr. Jim Seets, INHS). A .243 cal. rifle was with 100 grain softpoint bullets was primarily used, with occasional use of a 12-gauge shotgun with deer slugs.

Deer were collected on 4 over-night periods beginning on 19, 20, 25, and 26 January 1993. Deer were gutted the following day, and given post mortem examinations. Following post mortem examinations, the deer were gutted and sent for meat processing. During the over-night collections made on 19 and 20 January, personnel from the Centers for Disease Control (CDC), Department of Health and Human Services, Atlanta, Georgia, collected blood from deer to test for Ehrlichia chaffeensis, a newly discovered bacterium species associated with human ehrlichiosis.

Results

A total of 41 deer were killed and examined as part of project activities. The deer can be summarized by age and sex as follows:

	Female [1]	Male	Total
Adult	12	2	**14**
Yearling	5	5	**10**
Fawn	8	9	**17**
Total	**25**	**16**	**41**

[1] 28 fetuses were found in the females.

The post mortem examination records are on file at INHS. Table 1 summarizes shooting activities by night, including the time taken to collect each deer.

Appendix A summarizes the findings of blood tests taken by the CDC. Of the 22 deer blood samples examined, 1 tested positive for Ehrlichia chaffeensis (the positive specimen is highlighted in green). Appendix A also includes an article describing what is known about this bacterium.

Conclusions

This project confirmed that the efficiency of culling deer can be substantially improved over past experiences on Rock Cut State Park by using personnel who are experts relative to marksmanship, and baiting and finding deer. The project also confirmed that deer in Illinois can potentially be vectors of Ehrlichia chaffeensis. However, the information available at this point in time is limited, and precludes making any conclusions about incidence rates for this bacterium in Illinois deer herd.

Prepared by:

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Table 1. Summary of Rock Cut State Park deer collection efforts by INHS, January, 1993.

Start date	1/19/93	1/20/93	1/25/93	1/26/93
Start time	18:36	17:20	17:45	17:50
End time	2:22	23:30	2:22	23:20
End date	1/20/93	1/21/93	1/26/93	1/26/93

Collection time (minutes)				
Animal no.:				
1	19	12	5	90
2	1	18	5	70
3	69	2	22	151
4	15	13	8	1
5	20	30	10	3
6	45	1	1	15
7	20	39	34	
8	35	30	80	
9	39	40	60	
10	1	75	105	
11	55	95	20	
12	89		137	
13	46			

Appendix A

Blood tests taken by the CDC during the over-night collections made on 19 and 20 January. Of the 22 deer blood samples examined, 1 tested positive for Ehrlichia chaffeensis (the positive specimen is highlighted in green). This appendix also includes an article describing what is known about this bacterium.

1/19/93	White Tail Deer	RC-11	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-12	Winnebago County	IL	63

Date	Species	ID#	County	State	Ech IFA
1/19/93	White Tail Deer	RC-13	Winnebago County	IL	63
[redacted]					
1/19/93	White Tail Deer	RC-15	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-16	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-17	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-18	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-19	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-2	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-20	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-21	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-22	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-23	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-24	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-3	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-4	Winnebago County	IL	64
1/19/93	White Tail Deer	RC-5	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-6	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-7	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-8	Winnebago County	IL	63
1/19/93	White Tail Deer	RC-9	Winnebago County	IL	63

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